How to Repair the Optiquest Q9b 19” Computer Monitor

Intro

The Optiquest Q9b 19” monitor is made by Viewsonic. Optiquest is their cheaper line. Cheap may be an understatement. These monitors are poorly constructed and have a habit of having the inverter burn out after 18-24 months of use. After research and deconstructing a monitor, I have discovered that the inverter burn out is due to three swollen capacitors. The capacitors used in this monitor can be attributed to what is called the capacitor plague. These capacitors can be replaced in a fairly easy manner.

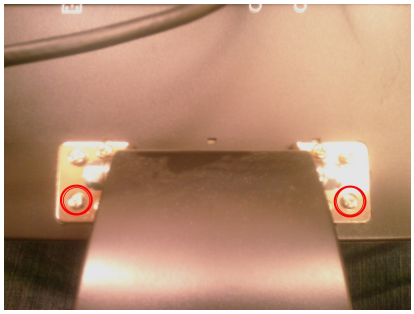
Items needed

- 3 470µF 35V 20% Radial-lead Electrolytic Capacitors
- Phillips head screwdriver
- A Small flathead screwdriver or a small plastic wedge
- Solder
- Soldering iron
- Desoldering braid
- Desoldering bulb or a solder sucker
- Felt Tip marker

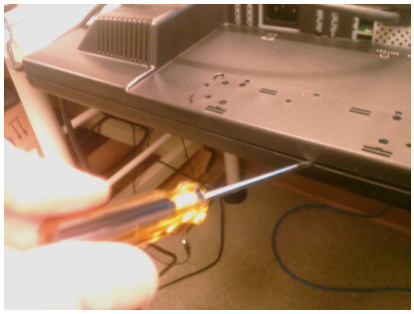
Steps

1. Remove the plastic shielding on the back of the monitor that covers the screwed holding on the stand. This should come off easily by squeezing it, but sometimes a flathead screwdriver is necessary to press the tabs to release the shielding.

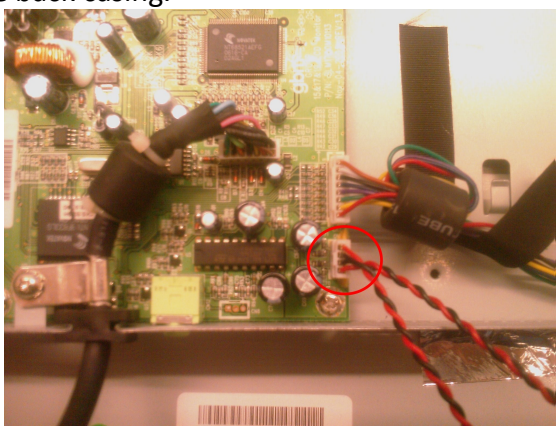
2. Using the Phillips head screwdriver, remove the 8 screws holding the stand to the monitor. The 2 screws in the lower corners are much longer than the other screws. Remember these must go back in the same spot later. They are circled below.



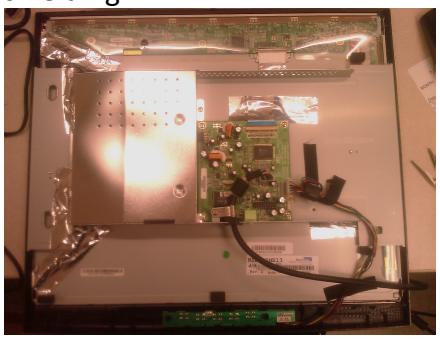
3. Using the flathead screwdriver, or the plastic wedge, separate the outer plastic casing of the monitor. There are inner tabs going around the entire monitor that must be released. The screwdriver is generally more effective for releasing the tabs, but a plastic wedge should be used if you are concerned about the cosmetic look of the monitor.



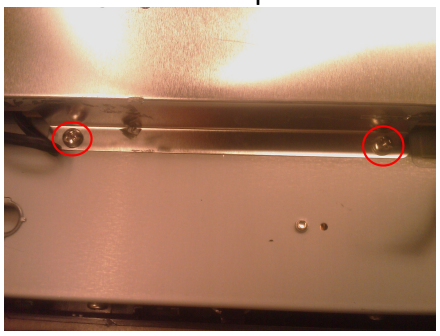
4. Remove the back casing of the monitor. The casing will still be connected to the monitor by a computer speaker connector since this model has built-in speakers. Disconnect the cable and set aside the back casing.

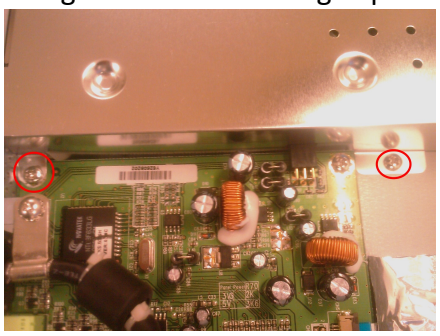


5. The inner circuit boards of the monitor should be exposed. The one needing repair is under the metal shielding. Remove the tape on the left side of the shielding.

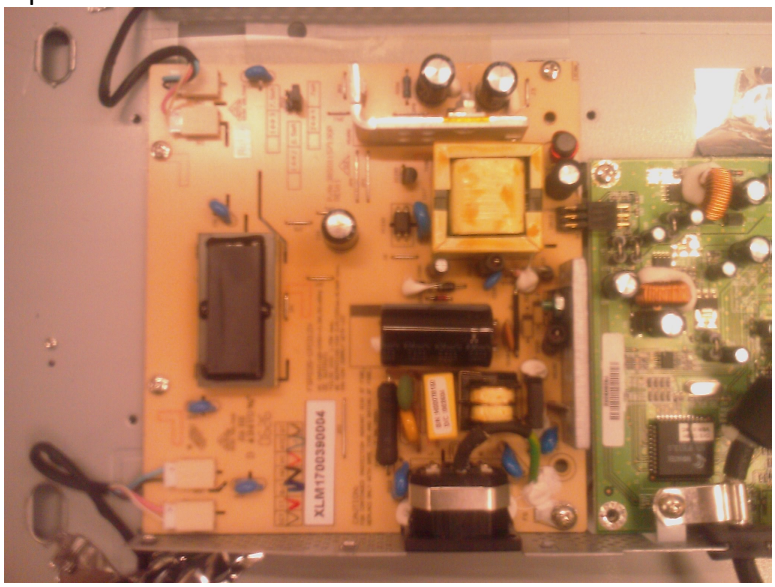


6. Remove the 4 Phillips head screws holding the metal shielding in place.

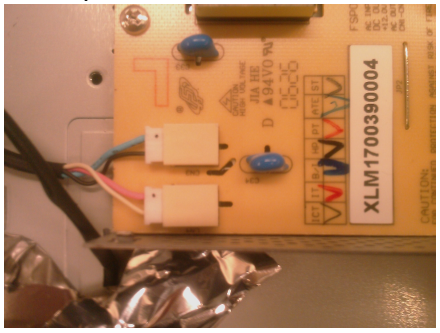


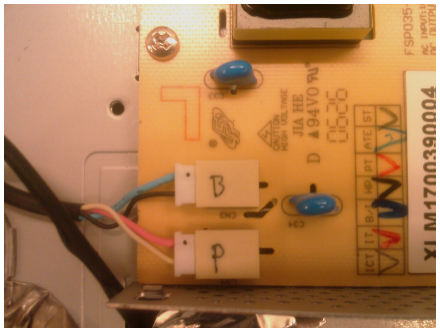


7. Under the metal shielding is a yellow circuit board. This is the power inverter board. This is the circuit board requiring repair. Using a Phillips head screwdriver, remove the 4 screws holding the board in place. Three of screws are shorter than the rest of the screws removed. The one screw closest to the AC input has a washer.

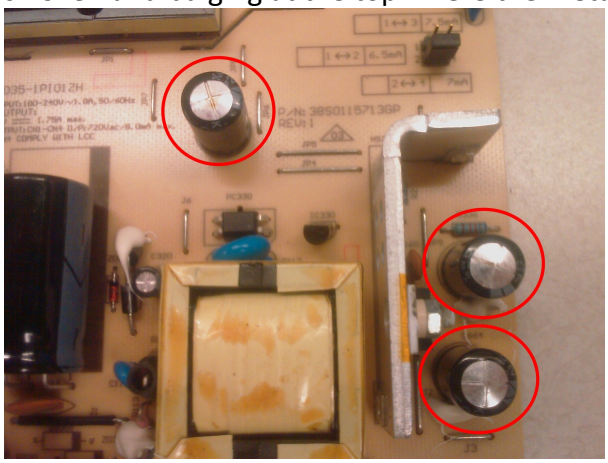


8. On the left edge of the circuit board there are 4 sets of cables plugged in. Each of these plugs has a small black dot on the side that is supposed to be facing up. In order to remember which plug goes where, use a felt tipped marker to mark the top of each socket.

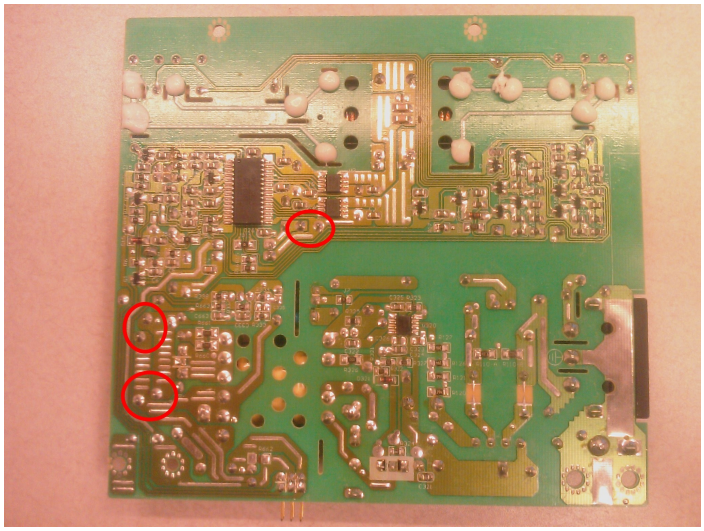




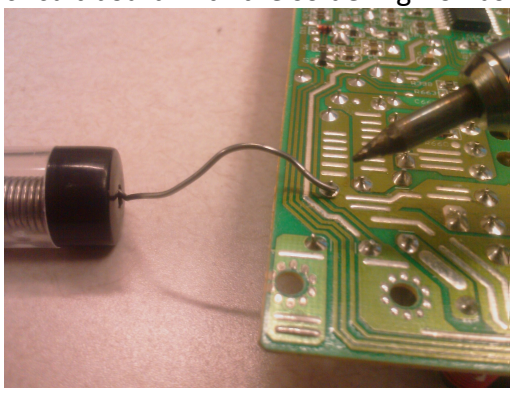
9. Now, take note of the 3 capacitors that need to be replaced. They should look swollen and bulging at the top where the metal is exposed.

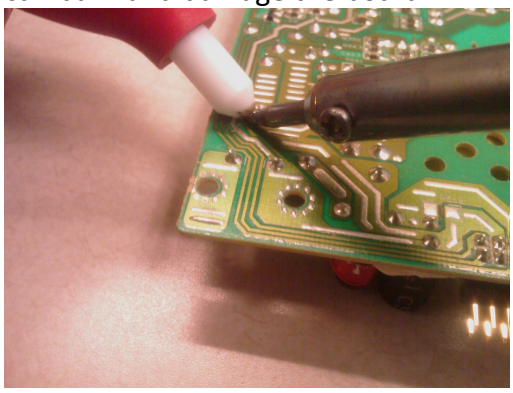


10. On the underside of the board, take note of where the same capacitors are soldered to the board.

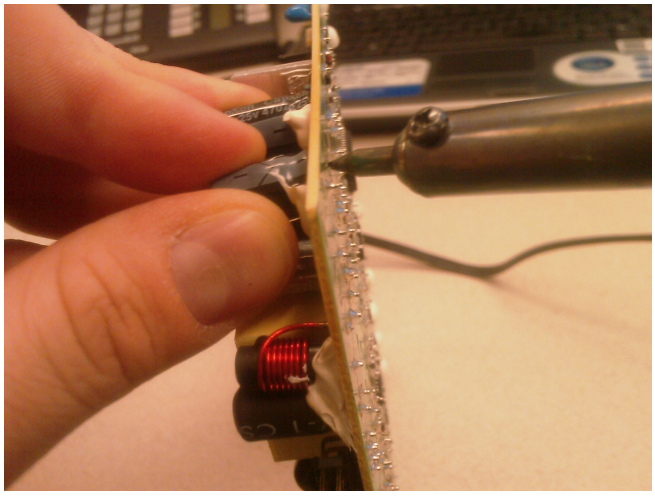


11. Heat up the soldering iron and get the fresh solder ready. Once the soldering iron is hot, apply some new solder to the old solder holding on the capacitor and mix the new and old solder. This needs to be done to remove the old solder because the old solder will not melt properly. Keep the soldering iron on the old solder so it remains melted. When the solder is mixed and melted, use a desoldering bulb or a solder sucker to remove the old solder. Use copper desoldering braid as well to clean up any remaining solder. Try not to hit the circuit board with the soldering iron as it can burn and damage the board.





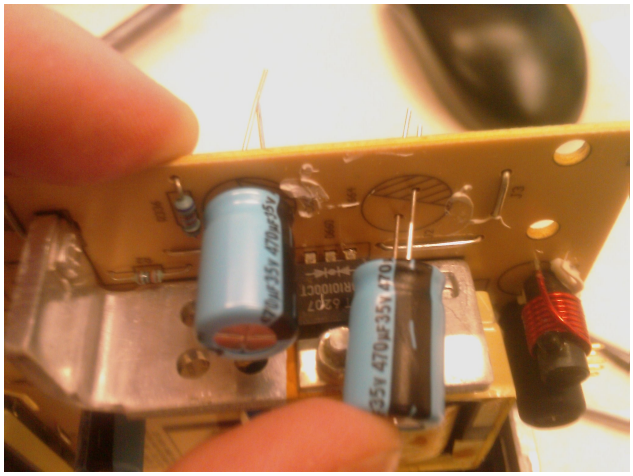
12. When the majority of the old solder is removed from the capacitor, turn the board so you can work on both sides the board at the same time. Take the capacitor in one hand and continue applying heat to the solder on the underside of the board using the other hand. The capacitor will become loose one side, and then the other. Sometimes it might take several tries to get the capacitor loose. Also, the capacitor may become warm as direct heat is being applied to the leads on the capacitor. After the capacitor is removed, make sure the hole in the board is clean and not covered by solder so the new capacitor can be easily inserted.



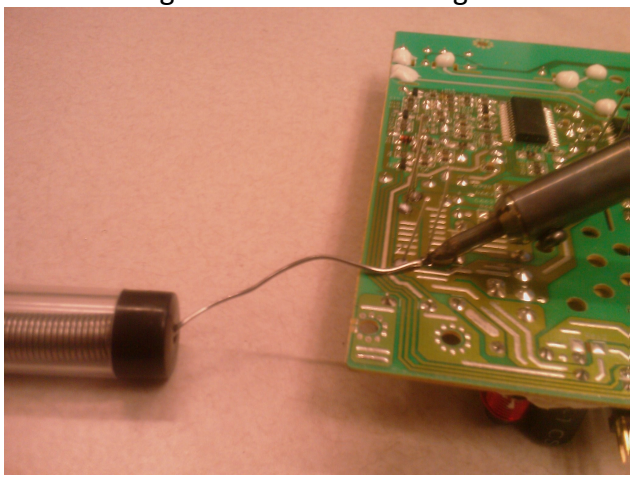
13. Repeat step 12 to remove the other 2 capacitors.

14. Below is the type of capacitor needed. The only place in most locations that have them on hand is RadioShack. However, the capacitors can also be purchased online. They cost about $1.40 a piece, but if you buy in larger quantities there is a discount.

15. Insert the new capacitor into the holes on the board. Take note that the negative lead on the capacitor matches up with the shaded part of the circle on the circuit board.

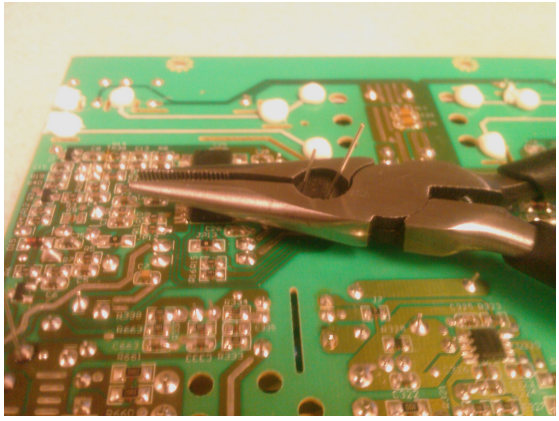


16. Apply hot solder to the underside of the circuit board to hold in the new capacitor. Once again, be careful to not touch and burn the circuit board with the soldering iron as it could damage the board.



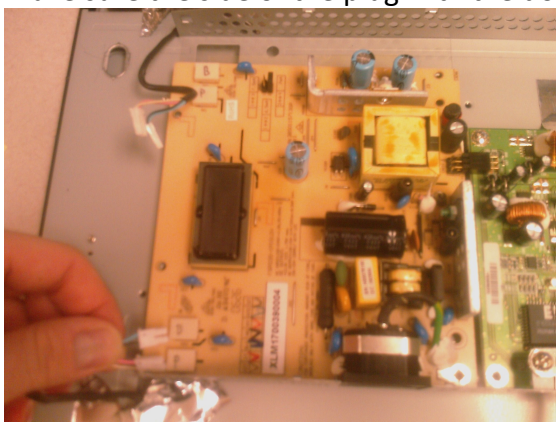
17. Repeat step 16 for the next 2 capacitors.

18. Using a wire cutter, snip the excess length on the capacitor leads. Be sure to not pull on the leads as it could damage the capacitor.



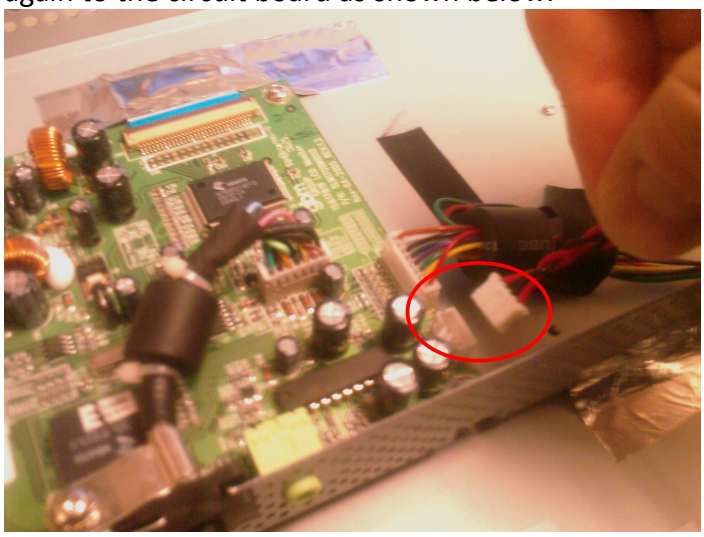
19. Reattach the circuit board to the monitor using the screws removed earlier. Make sure to properly line up the board so the one plug on the right side of the board inserts into the other circuit board.

20. Plug the cables back into the circuit board as marked earlier with the marker. Make sure the side of the plug with the dot is facing up.



21. Replace the metal shielding over the circuit board and screw it back in using the screws from earlier. After screwing in the shielding, this would be a good time to test the monitor to make sure it is working again. If it is not working properly, the capacitors may not be in properly or damaged, or there may be something more wrong with the unit.

22. Reattach the back casing of the monitor. Make sure to attach the speaker cable again to the circuit board as shown below.



23. Close the monitor casing. Reattach the monitor stand. Remember that the two longer screws go on lower corners of the mount. Replace the plastic shielding over the screws when finished.

24. The monitor should now be repaired and working. Throw out any broken items such as the old capacitors and solder.